

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of maximising the fault coverage on an integrated digital circuit by re-ordering a number of test vectors for testing the digital circuit, said method comprising :

- a) providing an initial set of test vectors  $T_0$ ;
- b) providing an original set of faults  $F_0$ ;
- c) selecting faults at pseudo-random from the original fault list to form a sample fault list  $F_N$ ;
- d) forming a vector set  $T_{N-1}$  and simulating the vector set  $T_{N-1}$  against fault list  $F_N$ ;
- e) discarding any vector from the vector set  $T_{N-1}$  which does not detect any faults;
- f) saving the remaining vectors as vector set  $T_N$ ;
- g) repeating the above steps c) to f)  $N$  M times with  $N$  having a value of 1 to  $M$  so that at the end of  $M$  steps, test vector sets  $T_1$  to  $T_M$  are saved;
- h) removing duplicate vector patterns in each vector set  $T_N$ ; and
- i) saving the duplicate free vector set  $V_N$  with  $N$  having a value 1 to  $M$ , initialising the final vector set and appending vector sets  $V_M$  through  $V_0$  to produce a final vector set  $T_F$ .

2. (Previously Presented) A method as claimed in claim 1 wherein in step g)  $M$  is 10 and steps c) to f) are therefore repeated ten times.

3. (Original) A method as claimed in claim 1 wherein the list of faults selected from the original list of faults have a probability of  $X^{-N}$  to produce subset fault list  $F_N$ .

4. (Original) A method as claimed in claim 2 wherein the list of faults selected from the original list of faults have a probability of  $X^{-N}$  to produce subset fault list  $F_N$ .

5. (Original) A method as claimed in claim 3 wherein  $X=2$ .

6. (Currently Amended) A method as claimed in claim 1 wherein the step of removing duplicate vector patterns is achieved by :

- j) copying the original fault list  $F_O$  to provide a secondary fault list  $G_N$ ;
- k) fault simulating vector set  $T_N$  against  $G_N$  and deleting any vectors which find no faults;
- l) saving the resulting vectors as vector set  $V_N$  and saving the list of undetected faults as list  $G_{N-1}$ ;
- m) repeating steps k) and l)  ~~$M+1$~~   $M$  times with  $N$  having values  $M$  to  $\theta$  1.

7. (Original) A method as claimed in claim 1 wherein the step of removing duplicate vector patterns is achieved by conducting a text search through the list of files of vector patterns looking for identical patterns, identifying the identical patterns and deleting the identical patterns identified.